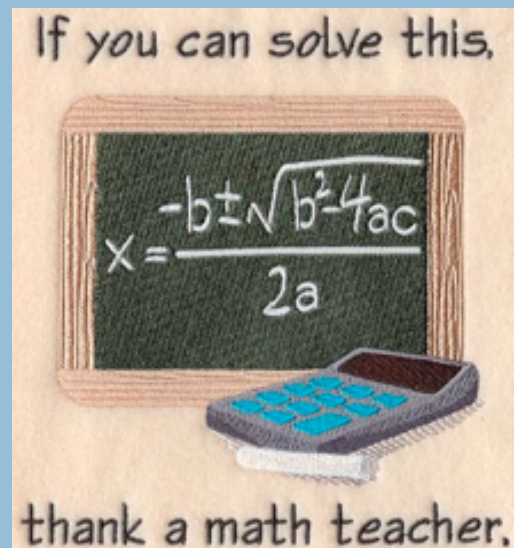


9.5 Solving Quadratic FUNctions with the Quadratic Formula



The Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$a \neq 0 \text{ \& } b^2 - 4ac \geq 0$$

$$y = \cancel{a}x^2 + bx + c$$

You have to memorize this formula!

How come $a \neq 0$
and $b^2 - 4ac \geq 0$??



**Make sure the quadratic equation is set equal to
ZERO
before using the quadratic formula!**

$$0 = Ax^2 + Bx + C$$

Solve using the quadratic formula. Round answers to the nearest hundredth.

1. $x^2 + 5x - 6 = 0$

$a = 1$

$b = 5$

$c = -6$

$x = -b, 1$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\frac{-5 \pm \sqrt{5^2 - 4(1)(-6)}}{2(1)}$$

$$\frac{-5 + 7}{2} = \frac{2}{2} = 1$$

$$\frac{-5 - 7}{2} = \frac{-12}{2} = -6$$

X
is the opposite
of
Plus or minus the Root of
Square MINUS FOUR AC
ALL OVER TWO "A"!!
and that is the
QUADRATIC
FORMULA
(da da da da da da da da da da da da da da da...)

$$2. 4x^2 - x = 7$$

The Quadratic Formula ...

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

It's not
that bad



For Quadratic Equations

$$ax^2 + bx + c = 0$$

$$3. -5 = -3x^2 + 4x \quad a = -3 \quad b = 4 \quad c = 5$$

$$+5 \quad +5$$

$$0 = -3x^2 + 4x + 5$$

$$\frac{-4 \pm \sqrt{4^2 - 4(-3)(5)}}{2(-3)}$$

$$\frac{-4 \pm \sqrt{16 + 60}}{-6}$$

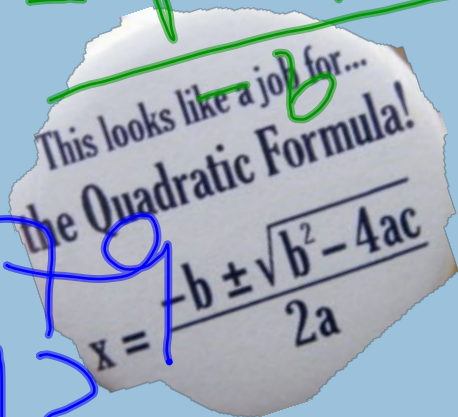
$$\frac{-4 \pm \sqrt{76}}{-6}$$

$$\frac{-4 + \sqrt{76}}{-6} =$$

$$\frac{-4 - \sqrt{76}}{-6} =$$

$$-0.79$$

$$2.12$$



4. $-3x^2 + x = -5$

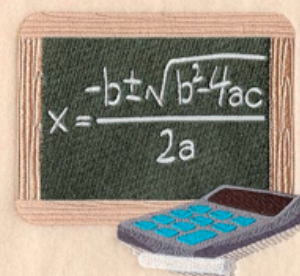
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even

If you can solve this,



thank a math teacher.